An

Inaugural Dissertation

on

Conception

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The subject which I have chosen, for this dissertation is one, which has employed the attention of Physiologists for many ages, and one on which many plausible theorys have been written; ale of which have had, and several of which yet have there advocates of mean conception

In the prosecution of this subject it is not my intention, to offer any new theory to the great number already extant: But to make a few observations on several of those already of=fered to the world.

Many have given over the in-vestigation of this subject; contenting themselves by saying, that the discovery would be productive of no practical advantage; but to such I would ask the question: where is that Physiologist to be found who would not wish to know something relative to the first procis, which takes place in the formation of the ornaments of the world.

Many of those theories which

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have been offered, with at this day, in which Physiology is much better understood require no arguments to disprove; such as that of Pythagoras who supposed that in the act of coition a minute Vapour descended from the brain tunicles of the male, from which similar parts of the embryo were formed and that all the grosser parts were formed from the blood and humors contained in the uterus.

Aristotle supposed that the embryo was formed from the menstrual blood, and that the semen of the male, only furnished it when formed with the principle of life, and by the operation of which it was brought to perfection. The first part of this theory is undoubtedly very erroneous, but the latter part has several phenomena in its favour, which I shall mention in the sequel of this dissertation.

Galen on the contrary supposed that the embryo was formed from the male semen, and that the mother only afforded it when formed a nest and nourishment. Hervey says that as iron by friction with a magnet becomes possessed of power or properties, so the uterus by the act of coition acquires a plastic power of conceiving an embryo in a manner similar to that by which the brain is capable of apprehending and thinking. This great man must have been very much at a loss for an opinion when he adopted this. I should suppose that it amounted to nothing at all, or rather that I can make nothing out of it.

Lieuwenhock having discovered a great ~~many~~ number of animalcula in the male semen asserted that they were the perfect rudiments of future animals; and that no other assistance from the mother was necessary than a proper nest and nourishment; but when the number was brought as an objection he asserted that the strongest overcame the rest, and so existed alone.

The Chymists supposed that they had

had solved all doubts, when they perceived that the male semen was an acid, and the female an alcali; and that by their union an embryo was formed. I take it for granted that they suppose the embryo to be a neutral salt. And if so, they may be formed by Chymists at pleasure

These and the like theories (as I have said before) at this day require no argument to disprove their fallacy; being sufficiently obvious to all who have paid the least attention to the subject. I will now proceed to the consideration of those opinions which are advocated at the present day. But prior to my entering upon this part of my subject, I shall mention the result of such experiments, as have been made with the intention of ascertaining the place and manner in which conception takes place. It is clearly proved by a great number of experiments, that an obliteration of the cavities of the fallopian tubes (from what ever cause) will ever after prevent conception. The first performance of these experiments that I have heard of was in 1796, by my worthy preceptor Doct. Ker of Maryland. The Dr. performed his experiments on

Sows

Sows. by making an incision into the abdomen and then dividing the fallopian tubes, by a simple transverse incision; having learned this fact from the Doctor, I have several times with him the last two years repeated these experiments; and in no instance has it failed. To prevent its being alledged that malconformation or some such cause rendered them barren. I preformed the operation on three which had prior to the operation raised pigs with the same result. The Doctor has observed the venereal desire in no instance to be destroyed or even lessened by the operation tie, no instance have we found extra uterine fœtuses.

Doct. Hatch has made many similar experiments on virgin rabits, and has varied them considerably; he, (if I mistake not) as I have not his experiments to consult) says, that when he divided both fallopian tubes, no conception took place, but when he divided one only, that con-

ception

ception took place upon the side, on which no operation was performed; but he found corpora lutea in both ovaria — he makes no mention of extra uterine foetuses

Spalanzini, has long since proved in frogs that for conception to take place, the actual contact of the semen masculinum with the ovum is necessary. and that, although the actual contact was necessary, yet it was sufficient in a very dilute state, 3gr of semen impartes a foecundating quality, to 1lb of water

Having premised these experiments, I shall now proceed agreeably to my plan, to mention those theories, which at this day have their advocates.

The first that I shall mention, is that of sympathy. The advocates for this theory, say, that the semen masculinum, being thrown by the act of coition, into the vagina, or uterus, produces there a peculiar action, which by sympathy is conveyed to the ovaria, and that by this action an ovum is foecundated, This I conceive not to be materially different from the Theory, advanced by Harvey though couched in different language; and by adopting it I think that I should be left as much in the dark

nothing

park, as I was before I attempted to form any opinion whatever upon the subject. But as it is one adopted by many at present, I must make a few remarks upon it. The experiments which I have related I think, go directly to the disproving of this theory. For when the fallopian tubes were divided no conception took place, neither were extra uterine foetuses found, which undoubtedly would have been the case could conception have taken place in this way.

The experiments of Doct Hatin clearly prove to my mind the fallacy of this theory, although the Doct speaks of them as substantiating it. In the case where he divided but one of the fallopian tubes, he found (which is a plain proof that the incision of the tubes did not destroy the sympathy between the parts) corpora lutea in both ovaria, but no extra uterine foetuses.

Now I would ask why were not extra uterine foetuses found upon the side where the tube had been divided? The answer is plain, it was because no contact could take place between the ovum therein on that side of the uterus. But if we allow the experiments of Spalanzini, (and which I see no reason for doubting) it settles this dispute at once, nothing

nothing more being necessary.

The next opinion which I shall mention, is that which was suggested by Doct Johnson. it is this, that the semen masculinum is taken into the general circulation by absorption, and so finds its way to the ovaria, where it impregnates an ovum, and then the ovum is conveyed through the fallopian tubes to the uterus. The reasons assigned for adopting this opinion are, that the hymen has been found imperforated after conception, and that two or three women, have been impregnated without a complete penetration by the male.

As to the hymen being imperforated in women after conception — I say could this be proved to be the case completely at the time of coition, it would be an unsurmountable objection to the opinion of the semen entering the uterus, But we know and all will allow that other parts may be renewed after being lacerated and why not this after coition, which would certainly tend to induce a degree of

inflamation

inflammation. Doct. Rush when speaking of the tests of virginity has this clause, "that the hymen is not a test of virginity, for many causes tend to destroy it, and it may be renewed after being once lacerated. So we see agreeably to the Doctrs opinion, it is very easy to account for conception in those few cases, where this occurs, without having recourse to the theory by absorption.

As to the other objection, that two or three women have been impregnated, without a complete penetration by the male —— I would ask the question if it is not reasonable to suppose, that a small quantity of semen, might find its way into the uterus in those instances where this has been the case, seeing that so small a quantity is sufficient, for fœcundation, as is proved by Spallanzina.

In this manner we may, I think, account for those phenomena, which have induced the advocates to adopt this opinion, without

without having recourse to the hypothesis of absorption. It now remains upon this head to prove, that conception does not take place by absorption, this I conceive to be clearly done by all those experiments of dividing the fallopian tubes that have been mentioned. For was this the case we should most undoubtedly have found extraneous fœtuses in the greatest number of those cases, which have been the subjects of our experiments, — which has not been the case in a single instance.

The next opinion which I shall mention is that of Doct. Haller, who says, that in a Prolific copulation, the semen masculinum is conveyed through the fallopian tubes to the ovaria, where it fecundates an ovum, which is pressed out by the fimbriæ of the tubes and conveyed into the uterus by their peristaltic motion. He endeavours to prove, that conception takes place in the ovaria by the

phenomenon

phenomenon of extrauterine conceptions.

The first opinion which I adopted was this, supposing that it was the only way by which we could account for a phenomenon which sometimes occurs; but have been since taught by our great Physiologist Doct. Wistar, that it may be accounted for very satisfactorily, without having recourse to this theory.

The Anatomy of the parts makes very much against this opinion, for the fallopian tubes are smallest at the uterus & gradually increase in size, as they recede from it, and finally terminate in the fimbriæ, which hang loose behind the lateral ligaments; which appears not at all calculated for conveying a fluid to the ovaria. It is very difficult to understand how the two directly opposite actions (which must certainly be very

very regular to produce the effect assigned them)
of the fallopian tubes, should take place. That
they should convey the semen to the ovaria, then
change their action directly, and convey it
back to the uterus, It is very difficult to
conceive of this. more especially when we
find nothing similar to it, in any part of
the body. The advocates for this theory
build their opinion (as I have said before)
upon the phenomenon of extrauterine con=
ceptions. But I would ask them, what proportion
they bear to natural conceptions? As for
my part, I am under the necessity of believing
that the proportion, is by far too small
to establish a theory, in my mind, where there
are such objections to surmount as the
form of the fallopian tubes, and the
double action that must take place in them.

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From the connection of the fallopian tubes with the ovaria by means of the fimbriæ, I cannot avoid supposing that if the semen was generally carried to the ovaria for the purpose of fœcundating an ovum, that we should have a hundred extrauterine conceptions, where we have one. The Question here naturally arises, how do we account for extrauterine conceptions? I would answer in the words of our profession, they are *lusus naturæ* and in these cases, the semen is conveyed through the fallopian tubes, to the ovaria, instead of the ovum to the uterus. It will then perhaps be said, that if it takes that course once, why not always? to this I answer by asking another Question. What is that operation in the human body, which is carried on always in the same way, & from which, there is no deviation in health or disease? I can with confidence

confidence answer for you, that there is no such operation: then why contend about this?

The opinion which I have formed from what has been said, & which I think I have nearly proved, is this — That in the act of coition, the semen masculinum is thrown into the uterus; that the fallopian tubes partaking of the general convulsion, embrace the ovaria, and force out an ovum ripe for conception, and that it is conveyed by them into the uterus, where it meets with the semen, and becomes animalized by it. — That the ovum is furnished by the mother, and only requires the seminal influence upon it to produce a living animal — I would infer, by analogy, from the unimpregnated egg containing nearly formed the rudiments of the chick — and from the spawn of frogs being in a very complete state

of

of formation before the male has exerted his influence upon it — I say, by analogy drawn from these facts, I think we are authorized to form the above conclusion — for it is by analogy alone, that we can form an opinion in this case.